

REMARKS

In the Office Action dated May 20, 2010, the Examiner rejects claims 1-10 and 15-18 under 35 U.S.C. §103(a). With this Amendment, Applicants have amended claim 1. Claim 13 was previously canceled. Claims 11, 12 and 14 were previously withdrawn in response to a restriction requirement. After entry of this Amendment, claims 1-12 and 14-18 remain pending in the Application. Reconsideration of the Application as amended is respectfully requested in light of the remarks below.

Entry of amendment under 37 CFR 1.116

This amendment is being submitted under the provisions of 37 CFR 1.116. It is submitted that the present amendment addresses and overcomes all of the Examiner's rejections and objections and places the application in a condition suitable for allowance; a notice of which is requested. It is submitted that the amendment to claim 1 follows the analysis presented by the Examiner on page 9 of the most recent Office Action. In view of this, it is submitted that the present Amendment does not necessitate additional search or consideration.

In the alternate, entry of this amendment is requested for purposes of Appeal in this matter. The present amendment removes and simplifies issues to be considered on appeal.

Response to rejections under 35 U.S.C. §103(a) based on Scherson

The Examiner rejects claims 1-3 under 35 U.S.C. §103(a) as being unpatentable over Scherson (WO 01/80338). Claim 1 (and claims 2 and 3 by their dependency) recites a method for manufacturing an electrode layer comprising forming one of a positive and negative electrode layer by ejecting droplets of a first electrode ink composition from a first nozzle of an inkjet device onto a base material, the first electrode ink composition including at least one electrode active material in a solvent matrix; and ejecting droplets of a second electrode ink composition from a second nozzle of the ink jet device onto the base material, the second electrode ink composition including at least one binder material in a solvent matrix. The claim has been amended to clarify that one electrode layer, which can be an anode layer or cathode

layer depending on the active material, is formed by using two different nozzles for the material recited in the claim. Specifically, Applicants' invention as set forth in claim 1 specifies that the first electrode ink composition and the second electrode ink composition are deposited in combination to form one of a positive and negative electrode layer. Support for this change is found in at least paragraphs [0033], [0040], [0043], [0045] and [0049].

Scherson discloses using a separate ink jet nozzle to apply the particular material composition specific to *each* of an anode, electrolyte and cathode. Scherson lacks any teaching or suggestion of a process in which components that combine to make up an electrode layer are applied by two separate nozzles and are deposited in combination to form the electrode layer. There is no disclosure or suggestion of using two nozzles to apply two separate mixtures of components resulting in a single anode or cathode layer present in Scherson. The record and present rejection are devoid of any reference that would support the present obviousness rejection. Thus the Examiner has not presented a *prima facie* case for obviousness in the present matter with regards to claims 1-3.

Accordingly, the invention of claim 1 and its dependent claims 2 and 3 is not rendered obvious by Scherson. Applicants respectfully submit that claims 1-3 are thus allowable over Scherson.

Response to rejections under 35 U.S.C. §103(a) based on Ito in view of Scherson

The Examiner rejects claims 1-6, 8, 10 and 15-18 under 35 U.S.C. §103(a) as being unpatentable over Ito (US 2005/0116375) in view of Scherson. Claim 1 (and claims 2-6, 8, 10 and 15-18 by their dependency) recites a method for manufacturing an electrode layer comprising forming one of a positive and negative electrode layer by ejecting droplets of a first electrode ink composition from a first nozzle of an inkjet device onto a base material, the first electrode ink composition including at least one electrode active material in a solvent matrix; and ejecting droplets of a second electrode ink composition from a second nozzle of the ink jet device onto the base material, the second electrode ink composition including at least one binder material in a solvent matrix. The claim has been amended to clarify that one electrode layer,

which can be an anode layer or cathode layer depending on the active material, is formed by using two different nozzles for the material recited in the claim. Specifically, Applicants' invention as set forth in claim 1 specifies that the first electrode ink composition and the second electrode ink composition are deposited in combination to form one of a positive electrode layer and a negative electrode layer.

Ito discloses a method of making an electrode comprising mixing conductive particles in surfactant and water, dispersing activated carbon into the mixture, and mixing binder into the mixture. The resulting product is a single mixture. This resulting single mixture is the material that is applied to the substrate.

The Ito reference presents two prominent distinctions from the invention as claimed. First, like Scherson, Ito fails to disclose using two separate compositions and applying the two compositions separately to form an electrode layer. Second, Ito fails to disclose the use of an electrode active material in a solvent mixture required as the first electrode ink with the second electrode ink containing at least one binder in a solvent matrix material. Instead, Ito discloses producing a single composition by mixing conductive material and a surfactant, and then mixing in the active material. The binder (rubber) of Ito is mixed with a solvent to form a rubber-based emulsion that is then mixed in with the composition containing the active material prior to applications on the base. Ito lacks any teaching or suggestion that would lead the artisan to conclude that the various subcombination compositions could be applied in a manner such that the materials are deposited in combination to form the electrode layer in question. As addressed above, Scherson also fails to disclose the use of two separate mixtures applied separately to manufacture one electrode layer. Because the references, taken alone or in combination, lack any teaching or suggestion of the application of subcombination mixtures, it is submitted that the Examiner has failed to present a *prima facie* case of obviousness with regard to these claims.

It should also be noted that neither reference provides any motivation to one skilled in the art to separate the mixtures as recited in Scherson and/or Ito and increase the manufacturing steps. As a matter of fact, Ito makes clear that as long as a rubber-based emulsion, activated carbon particles, conductive particulates and a surfactant are contained in the

material and mixed in the steps described in paragraphs [0071] to [0072], the method is not limited. Ito in essence teaches away from the use of any other mixtures. Applicants specifically teach against mixing in advance of applying the active material and binder in at least paragraph [0037].

Accordingly, the combination of Ito and Scherson fails to render obvious the method of claim 1 and its dependent claims 2-6, 8, 10 and 15-18. Applicants submit that these claims are allowable over the cited references.

Response to rejections under 35 U.S.C. §103(a) based on Scherson and Ito in view of Ito et al.

The Examiner rejects claim 7 under 35 U.S.C. §103(a) as being unpatentable over Ito in view of Scherson as applied to claims 1 and 4 above, and further in view of Ito et al. (US 6,447,571). Claim 7 depends from claim 1 to include all of the limitations therein. As explained above, the combination of Ito in view of Scherson fails to establish a *prima facie* case of obviousness with regard to claim 1 as neither reference teaches or suggests the elements of claim 1. Ito et al. also fails to teach or suggest using two separate mixtures including the components recited and applying the two mixtures separately to form an electrode. Accordingly, adding Ito et al. to the combination of Ito and Scherson also fails to teach or suggest the features of claim 1, and accordingly the features of claim 7 at least by its dependency. Applicants submit that claim 7 is allowable over the cited references.

Response to rejections under 35 U.S.C. §103(a) based on Scherson and Ito in view of Shimizu et al.

The Examiner rejects claim 9 under 35 U.S.C. §103(a) as being unpatentable over Ito in view of Scherson as applied to claim 4 above, and further in view of Shimizu et al. (US 5,707,763). Claim 9 depends from claim 1 and intervening claim 4 to include all of the limitations therein. As explained above, the combination of Ito and Scherson fails to render obvious claim 1 as neither teaches or suggests the elements of claim 1. Shimizu et al. also fails to teach or suggest using two separate mixtures including the components recited and applying

the two mixtures separately to form an electrode. Accordingly, adding Shimizu et al. to the combination of Ito and Scherson also fails to teach or suggest the features claim 1, and accordingly the features of claim 9 at least by its dependency. Applicants submit that claim 9 is allowable over the cited references.

Conclusion

It is submitted that this Amendment has antecedent basis in the Application as originally filed, including the specification, claims and drawings, and that this Amendment does not add any new subject matter to the application. Reconsideration of the Application as amended is requested. It is respectfully submitted that this Amendment places the Application in suitable condition for allowance; notice of which is requested.

If the Examiner feels that prosecution of the present Application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,

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